

**JPSS PROVING GROUND SEMINAR**

TITLE	<i>Understanding emissions and tropospheric chemistry using NUCAPS and VIIRS</i>
SPEAKER	Gregory Frost NOAA OAR Earth System Research Laboratory
DATE & TIME	Monday, January 25, 2016 12:00 pm, Eastern Daylight Time (New York, GMT-04:00)
LOCATION	Aerospace Building 8th Floor Conference Room 10210 Greenbelt Rd Lanham, MD 20706 and Via Webinar (See below)
ABSTRACT	<p>The Cross-track Infrared Sounder (CrIS) and the Advanced Technology Microwave Sounder (ATMS) onboard the Joint Polar Satellite System (JPSS) Suomi National Polar-orbiting Partnership platform represent the next generation of US polar-orbiting operational sounding systems. Our JPSS Proving Ground project aims to use NOAA aircraft measurements and atmospheric models to deliver products to characterize NOAA-Unique CrIS/ATMS Processing System (NUCAPS) retrieval quality, with the goal of improving the accuracy of NUCAPS daily global data for methane (CH<sub>4</sub>) and carbon monoxide (CO). JPSS Visible Infrared Imaging Radiometer Suite (VIIRS) data help locate sources of CO and CH<sub>4</sub>, including active fires and oil and natural gas flares, and VIIRS aerosol optical depth data may assist in source attribution.</p> <p>NOAA OAR's Earth System Research Laboratory (ESRL) has made extensive aircraft observations of CH<sub>4</sub> and CO during many US field campaigns (<a href="http://www.esrl.noaa.gov/csd/field.html">http://www.esrl.noaa.gov/csd/field.html</a>). With their high accuracy and precision, fine horizontal and vertical resolution, and repeated sampling, these aircraft data are the basis of our approach to inform and improve NUCAPS retrievals. Since our aircraft typically do not examine the full vertical extent of CrIS instrument sensitivity and measure only in specific regions and time periods, we use the aircraft measurements to systematically validate and improve our state-of-the-art chemical-transport models. The validated and improved models can then simulate the horizontal distribution, vertical profiles, and temporal variability of CH<sub>4</sub> and CO over the US at high resolution, and these model outputs will then be used to evaluate the retrieved NUCAPS CH<sub>4</sub> and CO data. The ultimate aim of this project is to assess the ability of JPSS datasets to provide constraints on the emissions, chemistry and transport of CH<sub>4</sub> and</p>

	<p>CO.</p> <p>This talk will give background on the scientific needs for CH<sub>4</sub> and CO observations and introduce the research approaches used by NOAA ESRL. Some preliminary studies will be discussed, including aircraft data analysis, evaluation and improvement of our atmospheric models, and initial assessments of NUCAPS data. Plans for future work will also be outlined.</p>
REMOTE ACCESS	<p>877-401-9225 pc: 53339716</p> <p>JOIN WEBEX MEETING  <a href="https://mmancusa.webex.com/mmancusa/j.php?MTID=mc4ce9a127dba727b85bfe11e15bb5460">https://mmancusa.webex.com/mmancusa/j.php?MTID=mc4ce9a127dba727b85bfe11e15bb5460</a>  Meeting number: 743 473 425 Meeting password: Jpss2016!</p>
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